

To Environment Committee Chairmen Sen. Christine Cohen, Rep. Joseph Gresko, and Distinguished Members  
And  
Transportation Committee Chairmen Sen. Will Haskell, Rep. Roland Lemar, and Distinguished Members

I would like to thank co- chairs, Representative Lemar, Senator Haskell, vice chairs - Senator Cassano and Representative Sims and ranking members, Representative Carney and Senator Somers for the opportunity to submit written testimony in support of SB-4 - an act concerning the Connecticut clean air act.

My name is Kevin McKernan and I am a licensed engineer (PEN.0032535) specializing in transportation who holds an advanced degree in Transportation & Urban Engineering from the University of Connecticut. I grew up in Connecticut and am now raising a son here, so it is as a professional, a resident, and as a parent that I write this testimony in favor of SB-4, with special interest given towards electric bicycles.

The efficiency of the humble bicycle cannot be overstated. Out of all forms of transportation invented, even walking, nothing outperforms a bicycle. If put into terms of gasoline, a bicycle would get the equivalent of about several thousand miles per gallon. Quite simply, if we are to address climate change, there is no better machine we can design for. The bicycle does, however, have its limitations. As it's dependent on muscle power, people using bicycles can be challenged by hills, weather, and by heavy loads. For a slight tradeoff in their incredible efficiency, electric bikes overcome almost all these challenges. Extreme temperatures, of course, remain a challenge but we are New Englanders, after all; we understand layering.

Electric bicycles can provide access and transportation to a wide range of people regardless of their abilities. Hills and other terrain which can give less experienced riders pause are easily conquered and the array of designs include tricycles, recumbent, and handcycle attachments for wheelchairs. These vehicles, combined with safe cycling infrastructure, can provide safe, easy, efficient transportation to many people of all ages and abilities. Bicycles designed for hauling cargo can also ably replace cars for many trips performed by households throughout the state such as bringing children to school or picking up groceries.

Using my own household as an example; given our current vehicle, travelling three miles round trip once per week to get groceries produces approximately 250 pounds of CO<sub>2</sub>. By itself, this isn't much, but few households make only one short trip per week. In fact, over half of all trips made by vehicles in the nation are for less than six miles. Replacing even a fraction of these with electric bicycle trips could greatly reduce our carbon emissions.

It is, of course, reasonable to ask why I do not replace our current vehicle with an electric one. The answer, quite simply, is cost. Consider the Chevy Bolt, one of the less expensive electric vehicles on the market. The starting price for a new Bolt is \$31,500. CHEAPR rebates bring this down to \$27,250 which is before any necessary charging equipment is installed. If we compare

that with the expected savings of around \$1,000 per year on gas (according to Consumer Reports), it doesn't make fiscal sense to replace a functioning car before necessary.

An electric cargo bicycle, though, costs a fraction of this and could immediately compliment households such as my own which will purchase an EV at some point in the future, but not anytime soon. Adding them to CHEAPR means that people who are of low to moderate income will be able to afford them as well, giving them access to an electric vehicle without being placed in a good deal of debt.

I strongly encourage you to support SB-4 and adding electric bicycles to the CHEAPR program. Furthermore, I ask that you consider how beneficial larger electric bicycles, designed to carry children as well as cargo, could be to Connecticut households and increase the proposed rebate cap in order to help cover the cost of these vehicles. Especially consider increasing the rebate amount for lower- and middle-income households who could use the assistance in affording these game changing devices. Finally, I would recommend adding two additional seats to the CHEAPR board; one to be filled by the PURA chair and the other to be filled by bicycle retailers and/or biking organizations as these electric vehicles currently do not have representation.

Thank you for your time and consideration in this matter.

Sincerely,

Kevin R. McKernan, PE

23 Exeter Avenue

West Hartford, CT 06110